



Louisville Metro Air Pollution Control District

Control Device Permit Application Form AP-300D

Settling Chamber

Mail application to:
850 Barret Avenue
Louisville, KY 40204
OR

e-mail to:
airpermits@louisvilleky.gov

(502) 574-6000
FAX: (502) 574-5137
www.louisvilleky.gov/apcd

Plant Name:

Plant ID:

Date of construction, modification,
installation, or operation:

Control equipment associated
with this process equipment:

Equipment Description

Manufacturer:

Model:

Settling Chamber Dimensions: Length -

Width -

Height -

Inlet air flow: Velocity -

Volumetric - acfm @ °

Pressure drop -

Draft: ☐ Forced ☐ Induced

Collection Method: Water injection rate -

☐ None

Trays:

Baffles:

Collection Efficiency: PM - %

PM₁₀ - %

PM_{2.5} - %

Describe how the collection efficiency was determined:

(If other than Manufacturer's specification, include documentation supporting the claimed efficiency)

List the contaminants in the waste stream that are removed by the settling chamber

Contaminant

CAS # (if applicable)

Gas stream concentration

Describe how the contaminant material is collected and the ultimate disposition of this material.

Instructions for Settling Chamber

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There are two types of gravity settling chambers: the simple expansion chamber and the multiple-tray chamber. The simple chamber is a long horizontal box with inlet, outlet and collection hoppers. The gas stream enters the expansion section of the device where its velocity is reduced, allowing particulate matter in the gas stream to be collected by gravity. The multiple-tray chamber operates similarly, but there are several horizontal collection plates to shorten the settling path of the particle, enhancing collection efficiency. The baffle chamber is a variation of the settling chamber. These units have baffles within the chamber that impart a downward motion to the particles in the gas stream, so that collection is accomplished by inertia as well as gravity.

General Information

Plant Name Enter the plant name.

Plant ID This is the identification number assigned to the source by the District. If this application is for a new source for which an ID has not been assigned, leave this blank.

Equipment Description

Manufacturer Enter the name of the company that manufactures the settling chamber equipment.

Model Enter the model number of the equipment to be installed.

Chamber dimensions Enter the length, width, and height (magnitude and units) of the settling chamber

Inlet velocity Enter the nominal inlet velocity (magnitude and units) at the entrance to the settling chamber.

Volumetric flow Enter the flow rate, in actual cubic feet per minute and the nominal temperature at the entrance, circling F for Fahrenheit or C for Celsius degrees.

Pressure drop Enter the drop in pressure between the entrance and exit of the settling chamber, measured in inches of water column.

Water injection If the settling chamber incorporates a water spray, enter the flow rate (magnitude and units) of the water flow. If there is no water spray, check the "None" box.

Trays Enter the number of settling trays present in the chamber.

Baffles Enter the number of chamber baffles present.

Collection efficiency Enter the collection efficiency for the particle sizes indicated.

Efficiency determination Indicate how the destruction efficiency was determined. (*e.g.* manufacturer's specification, calculation, stack test, *etc.*). Include appropriate documentation to support destruction efficiency claims.

Contaminant list List the materials that are removed from the airstream by the oxidizer. If a CAS registration number exists for the material, list that as well. Finally, list the typical concentration of the contaminant in the exhaust gas stream.